

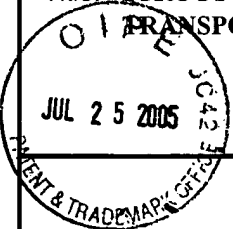
TRANSMITTAL OF INFORMATION DISCLOSURE STATEMENT
(Under 37 CFR 1.97(b) or 1.97(c))

Docket No.
BOW5075.14A1

In Re Application Of: **ROBERT W. BOWER**

Application No.	Filing Date	Examiner	Customer No.	Group Art Unit	Confirmation No.
10/763,578	01/21/2004		8156	2812	4912

Title: **STRUCTURES, MATERIALS AND METHODS FOR FABRICATION OF NANOSTRUCTURES BY
TRANSDUCED SPLIT OF ION CUT MATERIALS**



Address to:

**Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450**

37 CFR 1.97(b)

1. ☒ The Information Disclosure Statement submitted herewith is being filed within three months of the filing of a national application other than a continued prosecution application under 37 CFR 1.53(d); within three months of the date of entry of the national stage as set forth in 37 CFR 1.491 in an international application; before the mailing of a first Office Action on the merits, or before the mailing of a first Office Action after the filing of a request for continued examination under 37 CFR 1.114.

37 CFR 1.97(c)

2. ☐ The Information Disclosure Statement submitted herewith is being filed after the period specified in 37 CFR 1.97(b), provided that the Information Disclosure Statement is filed before the mailing date of a Final Action under 37 CFR 1.113, a Notice of Allowance under 37 CFR 1.311, or an Action that otherwise closes prosecution in the application, and is accompanied by one of:
- ☐ the statement specified in 37 CFR 1.97(e);
- OR**
- ☐ the fee set forth in 37 CFR 1.17(p).

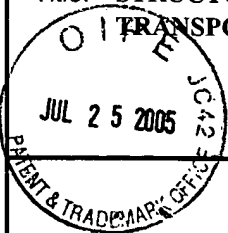
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Dated: 7/20/05

JOHN P. O'BANION, REG. NO. 33,201
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CC:



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: ROBERT W. BOWER
Serial No.: 10/763,568
Filing Date: JANUARY 21, 2004
Title: STRUCTURES, MATERIALS AND METHODS FOR FABRICATIONS OF
NANOSTRUCTURES BY TRANSPOSED SPLIT OF ION CUT MATERIALS
Group:
Examiner:
Docket No.: BOW5075.14A1
Cust. No.: 8156

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT

Section 1. Preliminary Statements

Applicants submit herewith patents, publications or other information of which they are aware, which they believe may be material to the examination of this application and in respect of which there may be a duty to disclose in accordance with 37 CFR 1.56.

The filing of this information disclosure statement shall not be construed as a representation that a search has been made (37 CFR 1.56(g)), an admission that the information cited is, or is considered to be, material to patentability or that no other material information exists.

The filing of this information disclosure statement shall not be construed as an admission against interest in any manner. Notice of January 9, 1992, 1135 O.G. 13-25, at 25.

Section 2. Form PTO/SB/08A-PTO/SB/08B (substitute for Form 1449)

FORM PTO/SB/08A-PTO/SB/08B IS BEING SUBMITTED HEREWITH IN 5 PAGE(S).

Section 3. Identification of Prior Application in Which Listed Information Was Already Cited and For Which No Copies Are Submitted Or Need Be Submitted

Note: "A copy of any patent, publication or other information listed in an information disclosure statement is not required to be provided if it was previously cited by or submitted to the office in a prior application, provided that the prior application is properly identified in the statement and relied upon for an earlier filing date under 35 U.S.C. 120." 37 CFR 1.98(d).

THIS APPLICATION RELIES, UNDER 35 U.S.C. § 120, ON THE EARLIER FILING DATE OF PRIOR APPLICATIONS: 10/051,623 FILED ON JANUARY 17, 2002 ;
09/476,456 FILED ON DECEMBER 30, 1999 .

THE REFERENCES SHOWN IN THE FORM PTO/SB/08A-PTO/SB/08B WERE SUBMITTED TO AND/OR CITED BY THE OFFICE IN THIS PRIOR APPLICATION AND, THEREFORE, ARE NOT REQUIRED TO BE PROVIDED IN THIS APPLICATION.

Section 4. Copies of Listed Information Items Accompanying This Statement

Legible copies of **all** items listed accompany this information disclosure statement are enclosed, except for U.S. patents and published applications, and except for patents or publications in previous applications identified in Section 3.

Section 5. Signature of Attorney

Dated:

7/20/05


SIGNATURE OF ATTORNEY

John P. O'Banion, Reg. No. 33,201
O'BANION & RITCHEY LLP
400 Capitol Mall, Suite 1550
Sacramento, CA 95814
(916) 498-1010



CERTIFICATION UNDER 37 CFR 1.8

I hereby certify that the foregoing:

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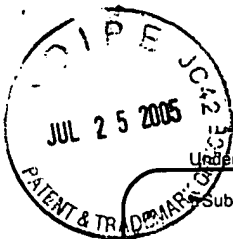
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**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

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Application Number	10/763,578
Filing Date	JANUARY 21, 2004
First Named Inventor	ROBERT W. BOWER
Art Unit	
Examiner Name	
Attorney Docket Number	BOW5075.14A1

Sheet 1 of 5

U. S. PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
		US- 5374564	12/20/1994	Bruel	
		US- 5494835	02/27/1996	Bruel	
		US- 5877070	03/02/1999	Goesele et al.	
		US- 6150239	11/21/2000	Goesele et al.	
		US- 6162705	12/19/2000	Henley	
		US- 6346458	02/12/2002	Bower	
		US- 6352909	03/05/2002	Usenko	
		US- 6033974	03/07/2000	Henley et al.	
		US- 6100166	08/08/2000	Sakaguchi et al.	
		US- 5882987	03/16/1999	Srikrishnan	
		US- 5926720	07/20/1999	Zhao et al.	
		US- 5966620	10/12/1999	Sakaguchi et al.	
		US- 5710057	01/20/1998	Kenney	
		US- 6027988	02/22/2000	Cheung et al.	
		US- 6048411	04/11/2000	Henley et al.	
		US- 6054370	04/25/2000	Doyle	
		US- 6140210	10/31/2000	Aga et al.	
		US- 6159824	12/12/2000	Henley et al.	
		US- 6225190 B1	05/01/2001	Bruel et al.	

FOREIGN PATENT DOCUMENTS

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		Country Code ³ -Number ⁴ -Kind Code ⁵ (if known)				

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Sheet 3 of 5	Application Number	10/763,578
	Filing Date	JANUARY 21, 2004
	First Named Inventor	ROBERT W. BOWER
	Art Unit	
	Examiner Name	
Attorney Docket Number		BOW5075.14A1

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
		BOWER, ROBERT W.; LeBOEUF, L.; LI, Y.A.; "Transposed Splitting of Silicon Implanted Hydrogen and Boron with Offset Distributions," ECE Department, University of California, Davis, CA 95616, pp. 1-3, Il Nuovo Cimento, Vol. 19D, No. 12, pp. 1871-1873, 1 January 1998.	
		BOWER, ROBERT W.; LI, Y.; CHIN, YONG J.; "The Hydrogen Ion Cut Technology Combined with Low Temperature Direct Bonding," ECE Department, University of California, Davis, CA 95616, pp. 1-3, Proceedings of SPIE, Vol. 3184, pp. 2-4; June 1997.	
		CEROFOLINI, G.F.; BALBONI, R.; BISERO, D.; CORNI, F.; FRABONI, S.; OTTAVIANI, G.; TONINI, R.; BRUSA, R.S.; ZECCA, A.; CESCHINI, M.; GIEBEL, G.; PAVISI, L.; "Hydrogen Precipitation in Highly Oversaturated Single-Crystalline Silicon," Physica Status Solidi, Vol. 150, pp. 539-585 (1995).	
		BRUEL, M.; "Silicon on Insulator Material Technology," Electronics Letters, Vol. 31, No. 14, 6 July 1995.	
		HARA, TOHRU.; ONDA, TATAYUKI.; KAKIZAKI, Y.; OSHIMA, S.; and KITAMURA, T.; KAJIYAMA, K.; YONEDA, T.; SEKINE, K.; INOUE, M.; "Delaminations of Thin Layers by High Dose Hydrogen Ion Implantation in Silicon," Journal of Electrochemical Society, Vol. 143, No. 8, August 1996.	
		FREUND, L.B.; "A Lower Bound on Implant Density to Induce Wafer Splitting in Forming Compliant Substrate Structures," Applied Physics Letters, Vol. 70, No. 26, 30 June 1997.	
		TONG, Q.; GUTJAHR, K.; HOPFE, S.; GOSELE, U.; LEE, T.H.; "Layer Splitting Process in Hydrogen Implanted Si, Ge, SiC, and Diamond Substrates," Applied Physics Letters, Vol. 70, No. 11, 17 March 1997.	
		BOWER ET AL.; "Transposed Splitting of Silicon Implanted with Spatially Offset Distributions of Hydrogen and Boron," Il Nuovo Cimento Note Brevi, Vol. 19D, No. 12, pp. 1871-1873, December 1997.	
		LI, Y.A.; BOWER, ROBERT W.; "Surface Roughness of Hydrogen Ion Cut Low Temperature Bonded Thin Film Layers," Journal of Applied Physics, Vol. 39, pp. 275-276, January 2000.	
		TONG, Q.-Y.; LEE, T.-H.; HUANG, L.-J.; CHAO, Y.-L.; GOSELE, U.; "Low Temperature Si Layer Splitting," Proceedings 1997 IEEE International SOI Conference, pp. 126-127, October 1997.	

Examiner Signature		Date Considered	
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First Named Inventor	ROBERT W. BOWER
Art Unit	
Examiner Name	
Attorney Docket Number	BOW5075.14A1

Sheet 4

of

5

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
		AGARWAL, A.; HAYNES, T.E.; VENEZIA, V.C.; EAGLESHAM, D.J.; WELDON, M.K.; CHABAL, Y.J.; HOLLAND O.W.; "Efficient Production of Silicon-on-Insulator Films by Co-Implantation of He+ with H+," Proceedings of 1997 IEEE International SOI Conference, pp. 44-45, October 1997.	
		http://www.research.ibm.com/ionbeams/home.htm ; "Ion Beam Interactions with Matter," The Stopping and Range of Ions in Matter, pp. 1-5, January 1998.	
		"SOI Interposer Structure," IBM Technical Disclosure Bulletin, Vol. 39, No. 7, pp. 191-195, July 1996.	
		"Method for Fabricating a Self-Aligned Dual-Gate Structure on an SOI Substrate," IBM Technical Disclosure Bulletin, Vol. 39, No. 7, pp. 163-167, July 1996.	
		ASPAR, B.; BRUEL, M.; ZUSSY, M.; CARTIER, A.M.; "Transfer of Structured and Patterned Thin Silicon Films Using the Smart-Cut Process," Electronics Letters, Vol. 32, No. 21, pp. 1985-1986, 10 October 1996.	
		AUBERTON-HERVE, A.J.; "SOI: Materials to Systems," International Electron Devices Meeting 1996, p.3-10.	
		TONG, Q-Y; BOWER, R.W.; "Beyond 'Smart-Cut': Recent Advance in Layer Transfer for Material Integration," MRS Bulletin, December 1998, pp. 40-43	
		YUN, C.H.; WENGROW, A.B.; CHEUNG, N.W.; ZHENG, Y.; WELTY, R.J.; GUAN, Z.F.; SMITH, K.V.; ASBECK, P.M.; YU, E.T.; LAU, S.S.; "Transfer of Patterned Ion-Cut Silicon Layers," Applied Physics Letters, Vol. 73, No. 19, 9 November 1998, pp. 2772-2774.	
		MARWICK, D.; OEHRLEIN, G.S.; WITTNER, M.; "High Hydrogen Concentrations Produced by Segregation into P+ Layers in Silicon," Applied Physics Letters, Vol. 59, No. 2, 8 July 1991, pp. 198-200.	
		JENG, S.J.; OEHRLEIN, G.S.; SCILLA, G.J.; "Hydrogen Plasma Induced Defects in Silicon," Applied Physics Letters, Vol. 53, No. 18, 31 October 1988, pp. 1735-1737.	

Examiner
SignatureDate
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Substitute for form 1449/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Use as many sheets as necessary)</i>		Complete if Known	
		Application Number	10/763,571
		Filing Date	JANUARY 21, 2004
		First Named Inventor	ROBERT W. BOWER
		Art Unit	
		Examiner Name	
Sheet 5	of 5	Attorney Docket Number	BOW5075.14A1

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		TONG, Q.-Y.; SCHOLZ, R.; GOESELE, U.; LEE, T.H.; HUANG, L.-J.; CHAO, Y.-L.; TAN, T.Y.; "A 'Smarter-Cut' Approach To Low-Temperature Silicon Layer Transfer," Applied Physics Letters Vol. 72, Vol. 1, 5 January 1998, pp. 49-51.	
		PEARTON, S.J.; CORBETT, J.W.; STAVOLA, M.; "Hydrogen in Crystalline Semiconductors," ISBN 3-540-55491-2, Springer-Verlag, 1992.	
		LU, S.; IYER, S.S.K.; MIN, J.; FAN, Z.; LIU, J.B.; CHU, P.K.; HU, C.; CHEUNG, N.W.; "SOI Material Technology Using Plasma Immersion Ion Implantation," Proceedings IEEE International SOI Conference, October 1996, pp.48-49.	
		VAN WIERINGEN, A.; WARMOLTZ, N.; "On the Permeation of Hydrogen and Helium in Single Crystal Silicon and Germanium at Elevated Temperatures," Physica XXII, pp. 849-865 (1956).	

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